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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NGUYEN, THONG Q

ART UNIT

PAPER NUMBER

2872

28

DATE MAILED: 02/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant No.

09/331,189

Applicant(s)

ULRICH ET AL.

Examiner

Thong Q. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-22, 26-28 and 42-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-22, 26-28 and 42 is/are rejected.
- 7) ☒ Claim(s) 43-46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 07 December 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

R sponse to Am ndm nt

1. The present Office action is made in response to the amendment (Paper No. 27) filed on 12/6/2002.

It is noted that in the mentioned amendment, applicant has canceled claims 25, 29-35 and 39-41 and simultaneously added new claims 43-46 into the present application. As a result of canceled and newly-added, the pending claims now are claims 16-22, 26-28 and 42-46 in which claims 16 and 42 are independent claims.

Drawings

2. The corrected or substitute drawings were received on 12/6/2002. These drawings are approved by the Examiner.

Specification

3. The lengthy specification which is amended by the amendment of 12/6/2002 has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 42 and 45-46 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a

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way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

a) Claim 42 is rejected under 35 USC 112, first paragraph because it is unclear how the microscope with an ocular, a tube lens, and an image rotator disposed between a scanning lens and a scanning mirror of a laser scanner optically coupled to a microscope having the mentioned ocular and the tube lens can measure an object from a plurality of angular positions without the physical rotation of the object. While the specification refers to the use of a prism or a set of mirrors arranged in a specific manner, i.e., K-configuration, for optically rotating the image of an object; however, the specification has never taught or disclosed sufficient information/description concerning the measurement of the object at different angles without the rotation of the object.

b) The remaining claims 45-46 are dependent upon the rejected base claim and thus inherit the deficiencies thereof.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 27-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 27 is rejected under 35 USC 112, second paragraph because the feature thereof "an axially movable objective is provided for the photographing of z-sections in a desired directional orientation" (lines 2-4) is indefinite. What does applicant mean by "z-sections in a desired

directional orientation" (lines 3-4)? Further, the mentioned feature is confusing with the structure of the movable objective as recited in the feature thereof "an axially movable objective" (lines 2-3). Applicant should note that a movement of an objective in an axial direction means that the objective is movable along the light path or the axis of the objective. In that aspect then how can the ***axially movable objective can take photograph of the so-called "z-sections" in a desired direction orientation?*** (Examiner's emphasis).

Claim Rejections - 35 USC § 102

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
9. Claims 16-18, 26 and 42, as best as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Ito et al (U.S. Patent No. 4,650,335, of record).

Ito et al disclose a scanning microscope. The microscope as described in columns 2-3 and shown in fig. 1 comprises an observation tube having an ocular, a laser scanner having a scanning mirror (3), a scanning lens (8), and an image rotating system in the form of a Dove prism (6) wherein the image rotating system is located between the scanning mirror (3) and the scanning lens (8). It is also noted that the system comprises an objective (10) for focusing light into the sample (13) and for guiding light from the sample to a detecting system having a CCD. The use of a thick beam splitter can be seen in the element (5) disposed between the image

rotating system and the lens (4). With regard to the feature concerning the "confocal" as recited in the preamble of the claims 16 and 42, such a recitation is not given a patentable weight because all of the features recited after the term "comprising" do not provide any specific/limitations for the term "confocal" recited in the preamble of the claims.

Claim Rejections - 35 USC § 103

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al in view of Wasmund et al (U.S. Patent No. 4,181,436, of record).

The microscope with a rotatable optical system in the form of a rotatable prism as provided by Ito et al meets all of the limitations of the device claimed in present claim 19, except the type of the prism being used in the rotatable image system. However, the use of an optical system having an Abbe prism for rotating an image in a microscope is merely that of a preferred embodiment and no criticality has been disclosed. The support for that conclusion is found in the present specification in which applicant has admitted that a Dove prism can be used in the image rotation system. Further, the use of an image rotation system having a Dove prism is indeed claimed as can be seen in the present claim 18. It is also noted that the use of an image rotation system having an Abbe prism is clearly suggested to one skilled in the art as can be seen in the microscope provided by Wasmund et al. See column 4 and fig. 5a. Thus, absent any

showing of criticality, it would have been obvious to one skilled in the art at the time the invention was made to utilize any suitable kind of prisms including the Abbe prism as suggested by Wasmund et al in an image rotating system of Ito et al to satisfy a particular design/application.

12. Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al (U.S. Patent No. 4,650,335) in view of the Japanese reference No. 8-334698.

The microscope with a rotatable optical system in the form of a rotatable prism as provided by Ito et al meets all of the limitations of the device claimed in present claims 20-22, except the type of optical elements used in the image rotating system. In other words, while Ito et al suggest the use of a Dove prism in the image rotating system, they do not suggest the use of a set of mirrors as claimed. However, the use of an image rotating optical system having an odd number of mirrors arranged in a K-configuration for the purpose of rotating an image as claimed is merely that of a preferred embodiment and no criticality has been disclosed. The support for that conclusion is found in the present specification in which applicant has admitted that a Dove or Abbe prism can be used in the image rotation system. Further, the use of an image rotation system having a (Dove/Abbe) prism is indeed claimed as can be seen in the present claims 17-19. It is also noted that the use of an image rotation system an image rotating optical system having an odd number of mirrors arranged in a K-configuration for the purpose of rotating an image is

clearly suggested to one skilled in the art as can be seen in the microscope described in the Japanese reference '698. See pages 2-3 and figs. 1 and 2. Thus, absent any showing of criticality, it would have been obvious to one skilled in the art at the time the invention was made to modify the microscope of Ito et al by utilizing any suitable kind of optical system including a odd number of mirrors arranged in a K-configuration as suggested by the Japanese reference '698 as an image rotating system to satisfy a particular design/application.

13. Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al (U.S. Patent No. 4,650,335) in view of Hasegawa (U.S. Patent No. 5,270,855).

The microscope having an image rotating system as provided by Ito et al described above meets all of the limitations of the device as claimed in present claims 27 and 28 except the feature that the objective or the turret supporting objective can move in an axial manner for the purpose of photographing the so-called "z-sections". However, the use of a mechanism for moving a turret supporting a plurality of objectives in an axial direction is clearly known to one skilled in the art as can be seen in the microscope provided by Hasegawa. See columns 5-6 and figs. 4 and 7, for example. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the microscope provided by Ito et al by moving the objective or a turret supporting plural objectives in

an axial direction as suggested by Hasegawa for the purpose of adjusting focus or for viewing/illuminating an object in its depth dimension.

Allowable Subject Matter

14. Claims 43-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

15. Applicant's arguments filed on 12/6/2002 have been fully considered but they are not persuasive.

A) With regard to the rejection of claim 42 under 35 USC 112, first paragraph, applicant's arguments provided in the amendment (page 5) have been fully considered but they are not persuasive. While the specification refers to the use of a prism or a set of mirrors arranged in a specific manner, i.e., K-configuration, for optically rotating the image of an object; however, the specification has never taught or disclosed sufficient information/description concerning the measurement of the object at different angles without the rotation of the object. Applicant should note that the direction of an image will be rotated 180 degrees by the image rotator with an odd reflecting surfaces while the directions of the image before and after rotation are still parallel to each other. The specification has never taught that the image rotator is rotated about for changing the orientation of the entrance surface of the image rotator with respect to the direction of the image incident on the mentioned entrance surface of the

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image rotator. Absence of teaching relating to the rotation of the image rotator about a rotation axis or the optical axis then the measurement of an object in different angular positions cannot be preformed.

Applicant has argued that the specification discloses the term "rotor" in page 4, line 18 and then refers to the Dictionary for the definition of such term. While the examiner agrees with the definition of the term "rotor" in the Dictionary; however, the Examiner does not agree with the applicant that the term "rotor" referred to in page 4, line 18 of the specification is directed to a mechanical device. The term "rotor" used in the mentioned page of the specification is directed to a rotation of the image by the image rotator, not a mechanical rotator.

B) With regard to the rejection of claims under 35 USC 112, second paragraph, applicant's argument as provided in the amendment (Paper No. 27, page 5) have been fully considered but they are not persuasive. While the examiner does not have any problem with the movement of the objective lens along, i.e., back and forth, the optical axis of the lens; however, the examiner cannot figure out the structural relationship between the z-axis and the so-called "desired directional orientation" (lines 3-4 of the claim). In other words, since a desired direction orientation could be understood as a direction in a plane perpendicular to the vertical (or optical or Z-axis) direction; therefore, the feature thereof "***an axially movable objective is provided for the photographing of z-sections in a desired directional orientation***" is unclear.

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C) With regard to the rejection of claims under 35 USC 102(b) over the art of Ito et al, applicant's arguments provided in the amendment (Paper No. 27, pages 6-7) have been fully considered but they are not persuasive.

First, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., confocal, the positions of the scanning mirror, scanning lens and tube lens, etc...) are not recited in the rejected claim(s).

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Second, in response to applicant's argument that the art of Ito et al does not disclose the feature of a tube lens, the Examiner respectfully disagrees with the applicant's opinion and respectfully invited the applicant to review the art of Ito et al and the features of the device claimed. The use of lens elements (28) in the art of Ito et al as a tube lens for imaging is disclosed, and the claim recites a microscope having an ocular and a tube lens without any specific limitations/features relating to the positions or the functions of the elements in the claim. With regard to applicant's argument that the art of Ito et al does not disclose that the image rotator rotate all scanning and video images fed through the laser scanner into the microscope, the Examiner respectfully disagrees with the applicant. The light or image provided by the source (1) is clearly rotated by the image rotator (6) before it come/feed to the microscope. Applicant's arguments

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do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

D) With regard to the rejections of dependent claims under 35 USC 103(a), since applicant has failed to provide any specific arguments except referring to the arguments applied to the rejection of the base claims under 35 USC 102(b); therefore, the dependent claims still rejected under 35 USC 103(a) for the same reasons as set forth in the previous Office action.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will

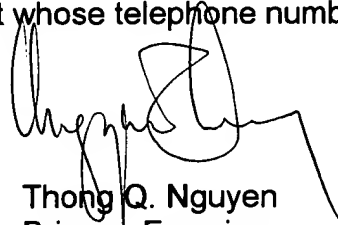
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the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (703) 308-4814. The examiner can normally be reached on M-F.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.



Thong Q. Nguyen
Primary Examiner
Art Unit 2872

February 5, 2003